

## Accountability and reciprocal interests of bilateral forest cooperation under the global forest regime

Mi Sun Park<sup>a,\*</sup>, Hyowon Lee<sup>b</sup>

<sup>a</sup> Graduate School of International Agricultural Technology, Institutes of Green Bio Science and Technology, Seoul National University, 1447, Pyeongchang-daero, Daehwa, Pyeongchang, Gangwon 25354, Republic of Korea

<sup>b</sup> School of Law, Seoul National University, 1 Gwanakro, Gwanakgu, Seoul 08826, Republic of Korea



### ARTICLE INFO

**Keywords:**  
 Regime  
 Bilateral cooperation  
 Agreement  
 Accountability  
 Reciprocity

### ABSTRACT

International forest governance is being established and implemented and influences national forest policies and strategies and international relationships among countries. International forest-related negotiations, including climate change, desertification, and biodiversity pressure states to respond to environmental and forest issues. States cooperate to achieve the shared goals of forest resource management. Bilateral forest cooperation is one way to implement agreements made by the global forest regime. This paper examines the contributions of international forest governance to bilateral forest cooperation through a case study of the Republic of Korea (ROK). The ROK has shared its knowledge and experiences of successful reforestation in the context of the South-South Cooperation. The cooperation areas, activities, and structures determined in bilateral international forest agreements (memorandum of understanding) were analyzed in the context of the history of international forest governance. This paper examines the roles of voluntary agreements by focusing on global accountability and reciprocal interests in forest cooperation between the ROK and its partner countries when implementing global forest regimes. The findings provide information on bilateral forest cooperation agreements as an institutional policy instrument and contribute to solving global issues, such as deforestation, desertification, and climate change, and fulfilling the reciprocal interests among countries in the field of forestry.

### 1. Introduction

Global forest regimes are formed and implemented to solve cross-border problems related to forests. Since the early 1990s, the global society has accepted sustainable development as a vision for global, regional, national, and local communities (Dryzek, 1997). The Forest Principles were adopted as a non-legally binding forestry agreement that many countries signed to attempt to achieve sustainable forest management (SFM) to fulfill the social, economic, ecological, cultural, and spiritual needs of present and future generations at the United Nations Conference on Environment and Development (UNCED) in 1992 (UN, 1992). The agreement represents an authoritative statement of the principles for a global consensus on the management, conservation, and sustainable development of all types of forests (Park and

Lee, 2014). SFM is a fundamental concept in forest management at the global and national levels. SFM has achieved broad support due to the strategy of empty-formula acceptance (Krott, 2010).

Global environmental regimes have influenced forest resource management at the global level, as the following. The United Nations Convention of Biological Diversity (UNCBD) and United Nations Framework Convention on Climate Change (UNFCCC) were established in 1992, and the United Nations Convention to Combat Desertification (UNCCD) was established 1994. The three conventions are significant systems in the worldwide management of forest resources. The sustainable use of forest resources is recognized as a focal area by the UNCBD and forest biodiversity conservation is an indicator of SFM practice (Barbati et al., 2014). Reversing and preventing desertification and mitigation and adapting to climate change is required to support

**Abbreviations:** AFOCO, Asian Forest Cooperation Organization; A/R CDM, Afforestation/Reforestation Clean Development Management; FLEGT, Forest Law Enforcement Governance and Trade; KFS, Korea Forest Service; KOICA, Korea International Cooperation Agency; MOU, Memorandum of Understanding; REDD +, Reducing Emissions from Deforestation and Forest Degradation and Enhancing Conservation, Sustainable Management of Forests, and Forest Carbon Stocks; SFM, Sustainable Forest Management; UNCBD, United Nations Convention of Biological Diversity; UNCCD, United Nations Convention to Combat Desertification; UNCED, United Nations Conference on Environment and Development; UNFCCC, United Nations Framework Convention on Climate Change; VPA, Voluntary Partnership Agreement

\* Corresponding author.

E-mail addresses: [mpark@snu.ac.kr](mailto:mpark@snu.ac.kr) (M.S. Park), [leewon35@snu.ac.kr](mailto:leewon35@snu.ac.kr) (H. Lee).

<https://doi.org/10.1016/j.forpol.2019.01.015>

Received 19 January 2018; Received in revised form 22 January 2019; Accepted 23 January 2019

Available online 30 January 2019

1389-9341/ © 2019 Elsevier B.V. All rights reserved.

SFM. The topics of biodiversity, desertification, and climate change are closely related to SFM and managed through international environmental negotiations.

In particular, under the process of the UNFCCC, the Afforestation/Reforestation Clean Development Mechanism (A/R CDM), and REDD+ (Reducing Emissions from Deforestation and Forest Degradation and enhancing conservation, sustainable management of forests, and forest carbon stocks) were introduced as cost-effective, incentive-based mechanisms to mitigate greenhouse gases in the forest sector (Park et al., 2013). The Forest Law Enforcement Governance and Trade (FLEGT) program of the European Union (EU) was created to stimulate legal timber production and good forest governance (Wiersum and Elands, 2013). The FLEGT is implemented through voluntary partnership agreements (VPAs) between the EU and producing countries (Lesniewska and McDermott, 2014). VPAs are legally binding and focus on economic aspects and environmental and social issues (van Heeswijk and Turnhout, 2013).

At the national level, States attempt to establish and implement their own policies and strategies, considering also the recommendations of the global forest regimes (Solberg et al., 2017). To achieve the shared goals of SFM, States engage in forest development cooperation multilaterally and bilaterally. The role of international organizations or regimes in national bi-lateral forest development policy is comparatively marginal, with the exception of Germany, where intergovernmental international organizations gain more prominent roles in bilateral development policy (as compared to Finland, Sweden and Austria) (Aurenhammer, 2013). International agencies support national agencies' efforts to institutionalize SFM practices or become directly involved in forest policy processes (Maryudi and Sahide, 2017). International agencies are also important for such donors, who prefer to provide (non-) earmarked budget support for implementation by international organizations, partly due to a lack of comparative advantage (states'/donors' own implementation capacities) and/or for various symbolic reasons (prestige, international acceptance/accountability of the state/national donor and bargaining power in other policy fields) – e.g. the cases with Austrian and Swedish development policy (Aurenhammer, 2013). Foreign donor agencies exercise their incentive power in the target countries to promote SFM within the international forest regimes (Giessen et al., 2016). In the case of REDD+, according to the Copenhagen Accord, a multilateral agreement reached at the Conference of Parties (COP) 15 in 2009, six countries (i.e., Australia, France, Japan, Norway, the United Kingdom, and the United States) pledged USD 3.5 billion as a fast-start financing package for REDD+ bilaterally and multilaterally. Japan and the aforementioned five countries announced that the pledge was the initial public financing for REDD+ in developing countries for the next 3 years (2010–2012). Japan signed a bilateral loan agreement for a low-carbon program including REDD+ with Indonesia and Vietnam (Park et al., 2013). Norway signed the aid contracts on REDD+ with four partner countries: Brazil, Tanzania, Indonesia, and Guyana (Angelsen, 2013). Intervention from foreign donor bureaucracies can induce policy changes and institutional changes in recipient countries (Aurenhammer, 2013; Rahman et al., 2018). Therefore REDD+ and SFM are precious vehicles to justify donor intervention in recipient countries and to generate funding. They work as part of paradigm change, while the core concept and the power-relations (of actors) behind have hardly changed. Considering these global phenomena, this study examines how countries cooperate bilaterally for their forest interests while following global forest governance by using the case of the Republic of Korea (ROK). Bilateral forest cooperation agreement texts between the ROK and other partner countries were analyzed by using two core concepts of accountability and reciprocity in the area of international relations. The results provide information on bilateral forest cooperation policies as a subsystem of a bilateral foreign policy system (Aurenhammer, 2013: 128) for solving global forest issues (e.g., deforestation, desertification, and climate change) and fulfilling the reciprocal interests among the

countries in the forestry and beyond.

This study concentrates on accountability and reciprocity to understand bilateral forest cooperation for establishing and implementing global forest regime. This study starts by introducing the theoretical framework of this research, which is anchored in a global forest regime, global accountability, reciprocity, and memorandum of understanding (MOU). Section 2 describes the context of the ROK in international forest cooperation. The methods section introduces the research questions to describe how the content analysis. The results section presents the contents of the agreements. The discussion section interprets the contents of the bilateral forest cooperation agreements according to two major questions. Finally, the research findings and conclusions are drawn.

## 2. Theoretical framework

This paper is based on four theoretical concepts to understand bilateral forest cooperation: global forest regime, forest development cooperation policy, accountability, reciprocity, and MOU in international relations.

### 2.1. Global forest regime

The international system to manage forests and environmental agendas is undergoing fundamental changes that have created multiple levels and multi-actors. Global civil society (Lipschutz, 1992; Wapner, 1997) and global social movements (Thörn, 2007) have emerged, and the activities of intergovernmental and nongovernmental organizations (NGOs) have been extended (Weiss and Gordenker, 1996). To interpret these phenomena, the concept of global governance is used.

Global governance is one international policy model, next to the anarchy of states, world hegemony, and world state (Rittberger and Zangl, 2004). Global governance is an analytical concept that provides a perspective on world politics different from the more traditional notion of international relations (Dingwerth and Pattberg, 2006). The core of global governance is changing the international system from state- to multicentric. The acquisition of authoritative decision-making capacity by nonstate and suprastate actors is the impetus in world politics toward multi-actor and multilevel decision-making (Fuchs, 2002). Notably, in environmental politics, global environmental governance emerged and recognized the large scale-impacts of environmental problems and limitations of the national capacities to solve environmental problems. The global society requires a shared method to manage the environment toward sustainability. Regimes are defined as “implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations” (Krasner, 1982: 186). An environmental regime that operates at the international and transnational levels is a part of global governance system in environmental world politics (Stokke, 1997).

The problem of deforestation and forest degradation is not limited to certain countries and regions but is globalized. The rate of decreased forest areas per year increased from 2.97 million ha/year in 1850 and 1919 to 15.10 million ha/year in 1980 and 1995 (Table 1) (Williams, 2006). Temperate forests decreased more than tropical forests during the eighteenth and nineteenth centuries, whereas tropical forests decreased more than temperate forests in twentieth century. Deforestation has been regarded as global environmental change over time. In particular, the rapid decrease of tropical forests, mostly located in developing countries, has threatened the ecological, economic, and social environment worldwide. Rapid deforestation influences the timber trade, biodiversity, climate change, and other factors in developing and developed countries.

In the process of solving environmental problems including deforestation, environmental regimes were formed. Environmental regimes develop normative statements and rules on forest issues. Multilateral

**Table 1**  
Change in world forest areas.

Period	Tropical	Temperate	Total	Decreased Area/Year
1700–1849	109	180	289	1.94
1850–1919	70	135	205	2.97
1920–1949	235	99	334	11.52
1950–1979	318	18	336	11.57
1980–1995	220	6	226	15.10

[Source] [Williams \(2006: 372\)](#).

Unit: million ha.

environmental agreements have been regarded as the output of global environmental regimes. The Forest Principles agreed on at the UNCED provided directions for forest management and officially introduced the concept of SFM at the global level (UN, 1992). Three multilateral environmental agreements related to forest issues were established: the UNFCCC and UNCBD in 1992, and the UNCCD in 1994. In this context, an international forest regime emerged during the 1990s (Humphreys, 2001). The UNCED forest negotiations (1990–1992), Intergovernmental Panel on Forests (1995–1997), and Intergovernmental Forum on Forests (1997–2000), as non-legally binding, were established and implemented to solve forest problems in the global dimension. By highlighting sustainable timber production and links between forests and climate, forest management certification system (the end of 1990s – present) and REDD+ (2007–present) were created, respectively, at the global level (Singer and Giessen, 2017). Against illegal timber trade, the FLEGT (2003–present), as legally binding, was introduced. Therefore, the forest regime is not a regime but a regime complex comprised of issue-related and fragmented regimes (Rittberger and Zangl, 2004; Aurenhammer, 2013; Giessen, 2013).

Dimitrov (2003) described the deforestation case as nonregime, compared with the case of ozone depletion, based on global phenomenon until 2003. He identified the deforestation case as a failure of regime formation caused by the limitation of shared knowledge on deforestation. Notably, in the mid- and late 2000s, deforestation-related studies were conducted, and the results were distributed. Applying his analytical framework of knowledge regarding the extent of the deforestation and climate change problem, the causes of the problem and its consequences were shared through several reports and articles including Stern's review (Stern, 2006) with the global society. Consequently, REDD+, as a knowledge-based global forest regime, was formed.

Humphreys (2001) divided international forest negotiations into two approaches that depended on bargaining theory: distributive/positional and integrative/principled. In the distributive/positional approach, the actors view each other as adversaries, and the outcomes are decided according to the relative strength of the actors. Power/influence factors (relative strength of the actors) and the willingness of the actors to support a joint program for solving problems are combined (Aurenhammer, 2016). In the integrative/principled approach, the actors view each other as partners addressing a common problem, the outcomes are decided according to principles and standards. Complexity and interconnectedness are recognized as characteristics of forest problems, the integrative approach to multiple issues receives attention, and new regulations and schemes are created. Therefore, in the history of international forest policy, main streams of global forest negotiations have evolved from the distributive/positional approach to the integrative/principled approach. This study follows the integrative/principled approach in the field of bilateral forest cooperation.

## 2.2. Forest development cooperation policy

The paradigm of forest development changed over time from industrialization to conservation, community forestry and climate forestry (Aurenhammer, 2013). Traditional forest development included

increasing the quantity and quality of forest resources. The concept of forest development includes forest transition, which means “the change from shrinking to expanding forests” (Mather, 1992). For several decades, the dominant forest management paradigm has been sustained yield, and since the early 1990s, SFM began to emerge as a new forest development paradigm (Luckert and Williamson, 2005). Forest development toward sustainable development that harmonizes environmental, social, and economic dimensions includes consideration for human well-being with forest resources. Persson (2003: 15) proposes two branches of forest development aid: stopping deforestation and conserving forests, and SFM to benefit societies well-being.

Aurenhammer (2013) offered theoretical concepts and institutional scopes in the field of forest development cooperation policy; according to him, development policy is a subsystem of foreign policy, and development cooperation policy is a subsystem of development policy. Overall, foreign policy can influence forest development policy as sectoral policy of foreign policy. Forest development policy is defined as “such a part of or a subsystem of a donor's development cooperation policy, where a donor government (co-) financed forest-related aid measures, implemented on a bi-governmental, bilateral or bi-multilateral basis (Aurenhammer, 2013: 2).” Forest development cooperation is implemented bilaterally and multilaterally. Multiple actors participate in the policy process of forest development cooperation. In particular, government actors play a dominant role based on their financial, informational, and human resources designated for forest development cooperation (Aurenhammer, 2013). Through forest development cooperation projects, foreign donor countries influence the recipient countries' forest policy (Rahman et al., 2016). Through direct funding, education, training, assistance, and capacity building, donor countries have direct access to domestic policymaking (Bernstein and Cashore, 2012). This research concentrates on bi-governmental development cooperation in the forestry sector. The case of ROK as a donor country is analyzed.

### 2.3. Global accountability and reciprocity

To solve the environmental and forest problems shared by present and future generations, states must recognize the problems and collaborate to solve them. Preventing free riders, as part of an accountability system, is required for global forest politics. When States recognize and accept accountability, they participate in establishing and implementing global forest regimes. By or to the extent of sharing common goals for sustainable resource management, States collaborate based on their national interests in international relations. Gaining mutual benefits initiates bilateral and multilateral cooperation among countries. Therefore accountability and reciprocity can be an impetus for international forest cooperation.

Accountability is the principle of forest governance, that is, good forest governance, and includes participation, transparency, and legitimacy (Cadman, 2009; PROFOR/FAO, 2011; Secco et al., 2014). Participation by multiple actors and their accountability is emphasized in SFM at the global level. Traditional doctrines of international law and international organizations were created from the perspective that states are the sole actors in world affairs and implied that national governments would have the obligations of accountability in global arenas (Scholte, 2011). Most notably, States' activities are necessary to establish and implement the aforementioned global regime (Aurenhammer, 2013).

Accountability comprises two concepts: a virtue and a mechanism (Bovens, 2010). As a virtue, accountability is a normative concept and a set of standards to evaluate the behavior of public actors. As a mechanism, accountability is an institutional relation in which an actor can be held accountable by a forum. Accountability supports institutional systems. In general, the words accountability and responsibility are interchangeable.

According to Biermann and Gupta (2011), accountability

normatively standardizes behavior defined with sufficient precision, links those held accountable to those with the right to hold to account, judges whether the expected standard of behavior has been fulfilled, and allows the governing actor to sanction deviant behavior of those held accountable. According to [Mashaw \(2006: 118\)](#), accountability as a relational concept can be specified with six questions: “who is liable or accountable to whom; what they are liable to be called to account for; through what processes accountability is to be assured; by what standards the putatively accountable behavior is to be judged; and what the potential effects are of finding that those standards have been breached.”

International negotiations and agreements request the accountability of parties to achieve common goals. Accountability can be a means to constrain power and provoke responses ([Scholte, 2011](#)). Global accountability can force states to join and implement the multilateral and bilateral agreements. In this research, the accountability of two partners in bilateral forest agreements are analyzed.

Interests are the impetus of forest policy in the national and international dimensions. According to [Krott \(2010\)](#), “interests are based on action orientation, adhered to by individuals or groups, and designate the benefits that the individuals or groups can receive from a certain project, such as a forest.” A nation’s own interests and common interests among countries constitute the crucial factors necessary to form and implement international forest policies. In international relations, forming mutually beneficial agreements among countries to reduce global conflicts and risks collaboratively is necessary ([Keohane, 1982](#)). Reciprocity is one of core principles in international relation theory, that is, “rewarding behavior that contributes to the group and punishing behavior that pursues self-interest at the expense of the group ([Goldstein, 2007](#)).” Reciprocity spurs actions contingent on rewarding reactions from others and cease when these expected reactions are not forthcoming ([Keohane, 1986: 6](#)). Reciprocity is a core principle in bilateral relationships, but is not a panacea. To expand the range of cooperation in world politics, it may be necessary to go beyond the practice of specific reciprocity in which direct rewards are received for cooperative actions, and engage in diffuse reciprocity in the interests of continuing satisfactory overall results ([Keohane, 1986: 20](#)). Reciprocity can be considered by using a broad and long-term scope in the international relationships among countries. In this research, the cooperation structure for reciprocity is analyzed in bilateral forest agreements.

#### 2.4. Memorandum of understanding

In general, MOUs are different from treaties between countries. MOUs confirm and record mutually agreed upon matters to clarify the concept already agreed to in a treaty, or the terms defined in the treaty. No uniform implementation standard for MOUs in the international community is available. MOUs may be concluded for a simple agreement on an independent topic or recognized as legally binding, depending on the country. The United Kingdom uses MOUs for only nonbinding agreements, and the United States uses MOUs for legally binding agreements. The ROK avoids using the term MOU as much as possible to prevent confusion when there is a legal effect in an intergovernmental agreement, but there is also a case where a treaty is concluded under the name MOU. Therefore, determining its legal nature and effects simply by the name is difficult, and disputes may occur in the international community because the legal nature of the MOU is unclear.

Agreements between international law actors have various titles. Generally, regardless of the title, treaties and gentleman agreements are distinguished based on their substantive content and legal effects. A treaty has legal force and, therefore, the power to exercise its legal rights and obligations to bind the Party legally and enforce it locally. By contrast, a gentleman’s agreement is not legally binding and merely an effect of estrangement that depends on the voluntary implementation of the Party’s willingness to express political will or willingness to

cooperate.

Treaty means an international agreement for the purpose of attributing the effects of the occurrence, alteration, or extinction of legally binding rights and obligations between States or other international law actors. The Vienna Convention on Treaties states in Article 2 (1) that “treaty means an international agreement concluded between States in written form and governed by international law, where embodied in a single instrument or in two or more related instruments and whatever its particular designation.” The treaty shall be concluded by an international legal entity and intended to create an international legal effect between parties. Treaties are usually written, but oral treaties are not prohibited. A treaty is concluded with various titles, such as an agreed minute, agreement, declaration, or modus vivendi, but this title is not directly related to its legal nature and effects. Whether MOUs are a gentleman’s agreement or a treaty should be judged based on whether they fulfill the aforementioned requirements for a treaty.

Do MOUs have domestic legal effects? Article 6 (1) of the Constitutional Law of the Republic of Korea stipulates that “treaties concluded and promulgated under the Constitutional Law and generally recognized rules of international laws shall have the same effect as the domestic law of the Republic of Korea,” and only international treaties and generally approved international laws are recognized by international law. If an MOU is a treaty, it has legal effects; if an MOU is a gentleman’s agreement, it has no legal effect. Even if an MOU is not a treaty, it has the same effect as the national law if recognized as generally accepted international law, that is, international customary law.

Even if an MOU has domestic legal effects, the effect accompanying it must be judged separately. First, an MOU must not be registered with the United Nations. Article 102 of the United Nations Charter ([United Nations, 1945](#)) states that “1. Every treaty and every international agreement entered into by any Member of the United Nations after the present Charter comes into force shall as soon as possible be registered with the Secretariat and published by it. 2. No party to any such treaty or international agreement which has not been registered in accordance with the provisions of paragraph 1 of this article may invoke that treaty or agreement before any organ of the United Nations.” Although this is an obligation imposed on Member States, it does not take effect until the treaty is registered. Enrollment in the United Nations is merely a counterclaim against United Nations’ agencies.

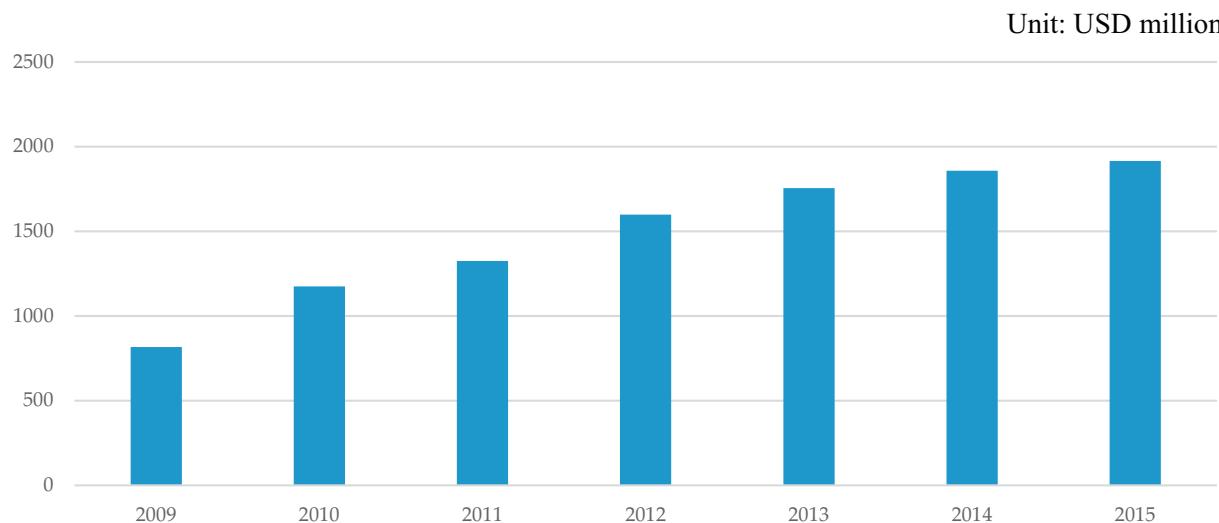
Second, even if an MOU is concluded, it cannot be concluded that the approval of the contracting state has been approved by the government. In general, the conclusion of a comprehensive bilateral treaty may be interpreted as implicit national approval, but it may or may not be contemplated.

Third, the ROK adopts the position of domestic law and monism on the effect of international law; thus, there is no requirement to enact separate implementation law. Notably, in the case of granting the same legal force as the law, the approval of the National Assembly must be obtained in accordance with Article 60 (1) of the Constitutional Law. In countries such as Germany, where dualism is adopted, even if a treaty is concluded, it must be implemented as a law, which becomes effective under domestic law.

### 3. Context of the Republic of Korea

The ROK has received support from international organizations such as the UN and developed countries such as the United States for recovery after the Korean War (1950–1953). The ROK received approximately USD 12.8 billion in Official Development Assistance (ODA) from 1945 to 1999 and approximately USD 31.2 billion as a non-concessional loan<sup>1</sup> from 1964 to 1999 in the process of national economic

<sup>1</sup> Concessional loans are granted to low-income countries at a concessional interest rate and non-concessional loan are provided with a market-based interests rate.



**Fig. 1.** Total ODA disbursed by the ROK. Unit: USD million.  
[Source] [Office for Government Policy Coordination \(2017\)](#).

development (KOICA, 2013: 374). The ROK secured a forestry sector loan from the International Bank for Reconstruction Development to finance 127 thousand ha of firewood plantations to supply firewood as an energy source in the 1960s (KFS, 1997: 45). The ROK started to implement training programs for developing countries as an ODA project in 1963, although the ROK is a country that received ODA (KOICA, 2013: 381). The ROK's ODA was started to support developing countries through the Economic Development Cooperation Fund established in 1987, and the Korea International Cooperation Agency (KOICA), established in 1991, has been promoting free fundraising and technical cooperation in earnest (KOICA, 2013: 387). The ROK's ODA volume to developing countries has increased for 5 consecutive years from USD 1.2 billion in 2010 to USD 1.9 billion in 2015 (Fig. 1) ([Office for Government Policy Coordination, 2017](#)).

The ROK uniquely transformed from recipient to donor in the ODA when the ROK became the twenty-fourth member of the OECD Development Assistance Committee—the leading international forum for bilateral providers of development cooperation in 2009. The ROK enacted the Framework Act on International Development Cooperation and the Presidential Decree, which was implemented in July 2010. According Article 2 of the Framework Act, the term international development cooperation means “development cooperation directly or indirectly provided to cooperation partners by the State, local governments, or public institutions with or without compensation and multi-lateral development cooperation provided through international organizations for the development and welfare of developing countries ([Korea Legislation Research Institute, 2017](#)).”

In particular, the Ministry of Agriculture, Food, and Rural Affairs prescribes and promotes matters concerning the development of overseas agricultural and forest resources and international cooperation based on the Act for Overseas Agriculture and Forest Resources Development and Cooperation. The Ministry contributes to the national economy and international community through the stable securement of overseas agricultural and forest resources and international cooperation. The ROK has low timber self-sufficiency and its own interests in the development of overseas forest resources through international cooperation (KFS, 2017).

The ROK experienced forest transition in the 1960s, despite the severe deforestation and forest degradation from the Korean War in the mid-1950s. The integrated policy design contributed to successful reforestation in the ROK (Park and Youn, 2017). The success of the ROK's reforestation policies has been promoted as an example of good forestry practices for developing countries (Noronha, 1981; Brown, 2008).

According to Article 4 of the Framework Act on International Development Cooperation, the expansion of sharing development experiences is one of the basic principles of the ROK's international development cooperation. The ROK started to share their experiences with other countries through bilateral forest cooperation. The ROK has conducted ODA in forestry in 22 developing countries since 2005 (Yoon et al., 2013). As of 2013, the ROK had disbursed USD 10 million to ODA for forestry (Lee et al., 2015: 45). Forestry ODA is a tiny part (0.63%) of total bilateral ODA by the ROK. From 2005 to 2013, the amount of ODA in forestry is mostly from the KOICA (40.5%), Korea Forest Service (KFS) (19.8%), and Asian Forest Cooperation Organization (AFoCO) (13.5%) (Lee et al., 2015, p.47). The ROK proposed the establishment of the AFoCO at the ASEAN-ROK Commemorative Summit in June 2009. Eventually “the Agreement between Association of South Asian Nations and the Republic of Korea on Forest Cooperation” was signed in November 2011, and the Agreement for the Establishment of the AFoCO at the 6th Dialogue-AFoCO was adopted.

The KFS established a new Bureau on International Affairs in 2012 that included the International Cooperation Division, International Forest Resources Development Division, and Forestry Trade Team to facilitate international forest cooperation between the ROK and other countries (KFS, 2016a, p. 198). In 2013, the KFS established a strategic plan to expand international forest cooperation. Based on its successful reforestation experiences, the ROK transferred their reforestation technology and helped create greening models in developing countries, including Mongolia (the Korea–Mongolia Green Belt Project from 2007 to 2016) and China (Nongovernmental Plantation Project to Combat Desertification from 2007). In 2016, the Korea–Mekong Forest Cooperation Center was launched in Phnom Penh, Cambodia, to encourage cooperation between the ROK and Mekong basin countries (i.e., Cambodia, Laos, Myanmar, and Vietnam) (KFS, 2016b).

#### 4. Research design and method

Based on the aforementioned theoretical background, we assume that States cooperate with other countries through bilateral agreements such as MOU and by considering accountability and reciprocity under a global forest regime (Fig. 2). This paper aims to examine how accountability and reciprocity, as two basic elements for global forest and environmental regimes, are represented in bilateral forest agreements. We pose the following research questions:

RQ 1: Do bilateral forest cooperation agreements support implementing the accountability of partner countries to achieve global

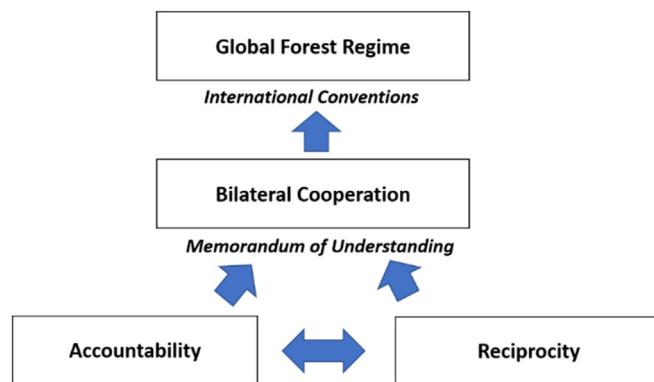


Fig. 2. Theoretical structure of bilateral cooperation based on accountability and reciprocity.

common goals under the global forest regime?

RQ 2: Do bilateral forest cooperation agreements support realizing the reciprocal interests between partner countries?

We examine MOUs as bilateral forest cooperation agreements between the ROK and other countries. Bilateral cooperation and coordination are based on MOUs, memorandums of cooperation, and joint work programs as formal mechanisms for cooperation (Gomar et al., 2014). MOUs are unique, official, and publicly accessible documents on bilateral forest cooperation in the ROK. The KFS provides the copy versions of original texts of MOUs through their official homepage.<sup>2</sup> From January 1987 to December 2016, the ROK had concluded 53 bilateral forest agreements with 31 countries. The ROK concluded 22 MOUs with other countries that focused on specific activities (e.g., a forest forum and forest center). In this study, the officially opened original texts of 17 agreements from 2006 to 2016 were collected and analyzed (Table 2). The collected documents from the MOUs are written in Korean and English.

We applied a content analysis to scrutinize MOUs for bilateral forest cooperation. Content analysis is a method of elevating social reality and shows a manifest text and latent context (Merten, 1995). Content analysis has a diagnostic function in situations where the content is produced and a prognostic function regarding further treatment of content sources (Atteslander, 1991). Based on the analysis of the contents of the MOU documents, the status of bilateral forest cooperation between the ROK and partner countries is diagnosed, and some suggestions are recommended.

The MOUs comprises two parts (Table 3). The first part has formal categories of data based on the agreements, such as the date, names of partner countries, and names of partner organizations. The second part includes paragraph-oriented categories, such as purpose, areas of cooperation, cooperative activities, forest cooperation committees, intellectual property rights, financial arrangement, settlement of disputes, entry into effect, duration, amendment, and termination.

The analysis results of the formal categories indicate the actors that play a role as partners in bilateral forest cooperation. The analysis results of the paragraph-oriented categories show the boundaries and rules of cooperation. To answer to two research questions, the contents of MOUs are analyzed by focusing on the accountability of actors (States) and their reciprocity between countries for forest cooperation regarding implementation of global environmental regimes, including climate change mitigation and adaptation, biodiversity conservation, and desertification prevention. In the field of accountability, procedural activities required by the agreements are scrutinized. In the field of reciprocity, national interests written and hidden in the agreements are

investigated.

## 5. Results

Since the ROK concluded bilateral agreements on forest cooperation with Indonesia in 1987, it has created a total of 53 bilateral agreements on forest cooperation with other countries, as of 2016. There are two types of these bilateral agreements: general and specific. General bilateral agreements include general forest cooperation from both sides. Specific bilateral agreements concentrate on specific topics or activities, such as forest plantations, the establishment of a forest cooperation center, and collaborative research. The ROK concluded a total of 31 general agreements with 31 countries (Table 4) for 30 years. Most of the general agreements (24 of the 31, approximately 77%) were concluded from 2006 to 2016. In particular, approximately half of the total general agreements were created in 2012 and 2013, after the KFS established a new Bureau of International Affairs in 2012. Since 2006, 27 specific agreements have been created (Fig. 3). In a notable exception, the ROK concluded an MOU for cooperation in the field of pine wilt disease with Portugal, without a general forest cooperation agreement. Approximately half of the total number of specific agreements (12 agreements among total 27 agreements) are concluded intensively with Indonesia (Fig. 4). In practice, the ROK disbursed ODA to forestry sectors in developing countries (Table 5). The recipient countries concluded MOUs with the ROK. MOUs enable and facilitate forestry cooperation between the ROK and partner countries.

These agreements were signed by representatives with the highest position in their respective national forest administration agencies. On the Korean side, ministers or deputy ministers from the KFS signed the agreements. For the other countries, the signatures were from secretaries general or ministers of forest-related national organizations (e.g., the Ministry of Forestry, Ministry of Agriculture, or Ministry of Environment).

### 5.1. General agreements

These general agreements mainly covered nine articles: (1) purpose, (2) legal commitment, (3) areas of cooperation, (4) cooperative activities, (5) forest cooperative committee, (6) intellectual property rights, (7) financial arrangement, (8) settlement of disputes, and (9) entry into effect, duration, amendment, and termination. The contents of the articles are as follows.

#### 5.1.1. Purpose

The agreements delineate the purpose of the bilateral forestry cooperation. The two countries aim to promote and strengthen forestry cooperation and facilitate exchanges regarding the development of forest policies, products, and species. In the MOU between ROK and Iran (2016), scientific, technological, training, and economic aspects are considered in forestry cooperation.

#### 5.1.2. Legal commitment

Most of the agreements are not intended to create any legally binding rights or obligations. The agreements are conducted within the framework of the respective laws and regulations of the two countries and subject to the availability of appropriate funds and personnel. In principle, these agreements are voluntary.

#### 5.1.3. Areas of cooperation

The bilateral forest agreements include various areas of cooperation (Table 6). Most agreements (94%) include cooperation for capacity building in forestry fields, such as research and development, the exchange of human resources, and educational training. In the agreements, SFM and reforestation are recognized as the principal approaches to forest resource management. The ROK agreed with its partner countries to cooperate with forest protection, the processing

<sup>2</sup> Official Homepage of Korea Forest Service. "Forest agreements between countries". [https://www.forest.go.kr/newkfsweb/cop/bbs/selectBoardList.do?bbsId=BBSTMSTR\\_1066&mn=KFS\\_02\\_01\\_06\\_04\\_02](https://www.forest.go.kr/newkfsweb/cop/bbs/selectBoardList.do?bbsId=BBSTMSTR_1066&mn=KFS_02_01_06_04_02) (7th September, 2018).

**Table 2**

Analyzed forest cooperation agreements between the Republic of Korea and its partner countries.

No.	Date	Country	Title
1	Oct 17, 2006	Russian Federation	Memorandum of understanding between the Forest Service of the Republic of Korea and the Federal Forest Agency (Russian Federation) on Cooperation in Forestry
2	June 3, 2008	Cambodia	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Forestry Administration of the Kingdom of Cambodia on the Cooperation in the Field of Forestry
3	Sep 2, 2008	Uruguay	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Agriculture, Livestock, and Fisheries of the Oriental Republic of Uruguay on Cooperation in the Field of Forestry
4	July 31, 2009	Paraguay	Memorandum of Understanding on cooperation in the Field of Forestry between the Korea Forest Service of the Republic of Korea and the National Forest Institute of the Republic of Paraguay
5	Mar 24, 2010	Tunisia	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Agriculture, Hydraulic Resources and Fishery of the Republic of Tunisia on cooperation in the Field of Forestry
6	May 9, 2012	Chile	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Agriculture of the Republic of Chile on Cooperation in the Field of Forestry
7	June 21, 2012	Ecuador	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Environment of the Republic of Ecuador on Cooperation in the Field of Forestry
8	June 21, 2012	Brazil	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Environment of Brazil on Cooperation in the Field of Forestry
9	Aug 29, 2012	Philippines	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Department of Environment and Natural Resources of the Republic of the Philippines on Cooperation in the Field of Forestry
10	Oct 22, 2012	Austria	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Federal Ministry of Agriculture, Forestry, and Environment and Water Management of the Republic of Austria on Cooperation in the Field of Forestry
11	Oct 23, 2012	People's Democratic Republic of Algeria	Cooperation Program between the Korea Forest Service of the Republic of Korea on Cooperation in the Field of Forestry and the Ministry of Agriculture and Rural Development of the People's Democratic Republic of Algeria
12	Oct 24, 2012	Benin	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Environment, Housing, and Urban Development of the Republic of Benin on Cooperation in the Field of Forestry
13	Oct 26, 2012	Ethiopia	Memorandum of Understanding between the Korea Forest Service of Government of the Republic of Korea and the Ministry of Agriculture of the Government of the Federal Democratic Republic of Ethiopia on Cooperation in the Field of Forestry
14	Aug 13, 2013	Argentina	Memorandum of Understanding for cooperation in the Field of Forestry between the Ministry of Agriculture, Livestock, and Fisheries of the Argentine Republic and the Korea Forest Service of the Republic of Korea
15	Nov 27, 2013	Las people's Democratic Republic	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Agriculture and Forestry of the Las people's Democratic Republic on Cooperation in the Field of Forestry
16	May 19, 2015	Dominican Republic	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and the Ministry of Environment and Natural Resources of the Dominican Republic on Cooperation in Biodiversity, Protected Areas, and Forestry
17	May 2, 2016	Islamic Republic of Iran	Memorandum of Understanding between the Korea Forest Service of the Republic of Korea and Forest, Range, and Watershed Management Organization of the Islamic Republic of Iran Concerning Cooperation in the Field of Forestry

**Table 3**

Analysis items of bilateral forest agreements.

Formal category	Paragraph-oriented category
Date	Purpose
Type of agreements (general/specific)	Non-legally binding
Title of agreements	Areas of cooperation
Name of partner countries	Cooperative activities
Name of partner organization	Forest cooperation committees
	Intellectual property rights
	Financial arrangement
	Settlement of disputes
	Entry into effect
	Duration
	Amendment and termination

disasters, such as landslides and control of forest fires, forest diseases, and insect pests. Countries regard global topics, such as mitigating and adapting to climate change and combating desertification, as cooperation fields. In 2008, the ROK and Cambodia agreed to collaborate on climate change in the forest sector, including Afforestation/Reforestation CDM and REDD. In addition, the establishment and use of information, including a geographic information system (GIS), remote sensing in the field of forestry, and technology development, are cooperation areas. Rarely has the ROK agreed to cooperate on forest re-creation with Algeria and the Dominican Republic.

#### 5.1.4. Cooperative activities

The agreements indicate various cooperative activities (Table 7).

**Table 4**

Countries that signed forest agreements with the ROK.

Continent (Number of Countries)	Name of Country
Asia (15)	Indonesia, Vietnam, Cambodia, Myanmar, Mongolia, China, Iran, Japan, Philippines, Laos, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
Africa (4)	Tunisia, Algeria, Benin, Ethiopia
Latin America (7)	Paraguay, Uruguay, Ecuador, Chile, Brazil, Argentina, Dominican Republic
North America (1)	Canada
Europe (3)	Russia, Austria, Portugal
Oceania (2)	Australia, New Zealand

and trade of forest products, and the conservation of the forest ecosystem. Forest protection includes the prevention of forest-related

Both sides chose (1) to share and exchange information and data on forestry; (2) exchange human resources, such as experts, researchers

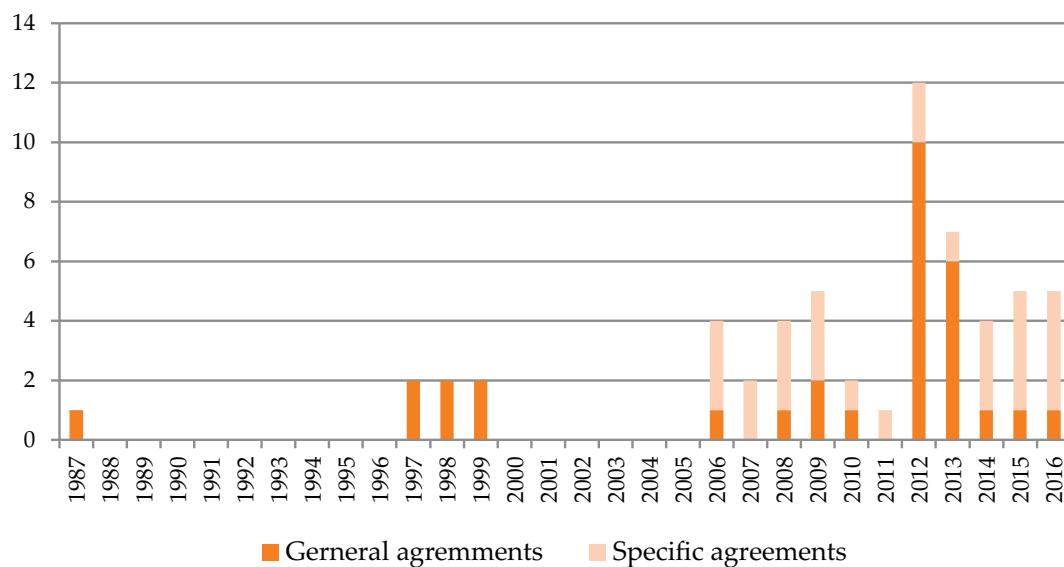


Fig. 3. Number of general and specific agreements for forest cooperation between the ROK and partner countries ( $n = 58$ ).

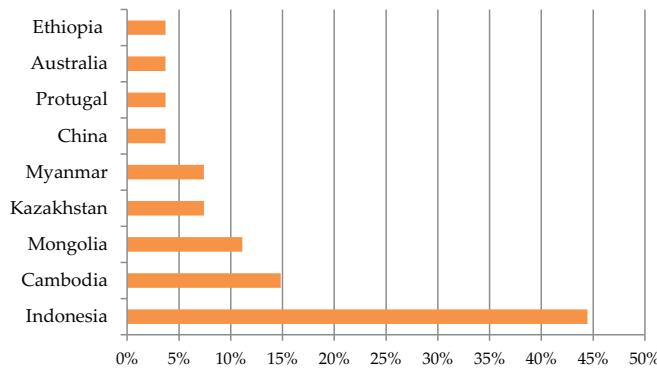


Fig. 4. Partner countries that concluded forest agreements with specific issues ( $n = 27$ ).

Resources of the Philippines agreed to facilitate investment from the private sector for development of Industrial Tree Plantations and/or Agroforestry within the scope allowed by Philippine regulations in 2012.

#### 5.1.5. Forest cooperation committee

Most agreements (94%) require the establishment of a forest cooperative committee comprising both stakeholders to facilitate and secure the implementation of MOUs and specify the regular meetings of the Committee. According to the agreements, the Committee shall meet at least once every 2 years. Meetings may eventually occur in other convenient places, as decided by the sides. At the meeting, the heads of the both delegations are the co-chairpersons of the Committee. Both sides gain equivalent rights at the meetings. The Committee has several functions: (1) to develop programs based on areas of cooperation, (2) review and evaluate the progress of the implementation of the agree-

Table 5  
ODA for forestry disbursed by the ROK.

Rank	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
1	Mongolia	0.16	0.02	0.50	0.97	1.06	2.66	1.62	1.42	1.41	9.82
2	Indonesia	0.97	0.74	0.24	1.35	1.10	0.36	0.79	0.75	0.82	7.12
3	China	1.58	0.59	0.18	0.88	0.83	1.36	1.01	0.37	0.25	7.05
4	Philippines	0.01	0.01	–	0.02	0.03	4.20	0.48	0.08	0.95	5.78
5	Cambodia	–	–	–	–	–	0.05	0.51	1.07	0.72	2.35
6	Myanmar	0.16	0.04	–	0.43	0.55	0.30	0.10	–	0.40	1.98
7	Kirgizstan	–	–	–	–	–	–	0.07	0.15	0.57	0.79
8	Solomon Islands	–	–	0.14	–	–	–	–	–	0.38	0.52
9	Uzbekistan	0.01	0.01	–	–	–	–	–	–	0.39	0.41
10	Dominican Republic	–	–	–	0.02	0.04	0.07	0.08	0.04	0.07	0.32
Total		2.89	1.41	1.06	3.67	3.61	9.0	4.66	3.88	5.96	36.14

[Source] Lee et al. (2015: 49).

Unit: million US dollar.

and officials; (3) organize joint workshops, meetings, seminars, and study tours; (4) conduct cooperative activities in areas related to climate change and forestry; (5) assist with and invest in forestry; and (6) implement forest projects. In the case of forest cooperation regarding climate change, in 2009, the ROK and Paraguay agreed on the implementation of A/R CDM or REDD projects and cooperation to enhance planning capacity. In particular, the ROK and Philippines agreed on concrete and detailed cooperation activities related to forest plantations. The KFS and Department of Environment and Natural

ment, and (3) discuss and arrange the cooperative activities under the agreement. Therefore, the Committee plays a pivotal role as a deliberative body of bilateral forest cooperation.

#### 5.1.6. Intellectual property rights

The agreements ensure that intellectual property rights based on the cooperative activities under the bilateral agreements are protected in accordance with the laws and regulations of their respective countries and international agreements to which their countries are parties. For

**Table 6**  
Area of forest cooperation.

	Area of forest cooperation	No. of agreements (N = 17)	%
Capacity building	Research & development	16	94
	Education and training	12	71
	Exchange of human resources	8	47
Forest resource management	Sustainable forest management	13	76
	Reforestation	11	65
	Forest resource management	8	47
Global issues	Forest resource development	6	35
	Forest rehabilitation	6	35
	Climate change	11	65
	Desertification	5	29
Forest conservation	Collaboration to address global issues	4	24
	Forest Conservation	11	65
Trade and investment	Biodiversity Conservation	2	12
	Processing of forest products	10	59
Forest protection	Trade of forest products	9	53
	Forest investment	6	35
	Fire prevention	9	53
	Pest prevention	8	47
Forest monitoring & inventory	Disease prevention	7	41
	Forest protection	6	35
	GIS and Remote Sensing	4	24
	Forest inventory	4	24
	Information system	3	18

example, in a bilateral cooperation agreement on tree breeding, protection of forest genetic resources by intellectual property rights (Myking et al., 2017) can be considered.

#### 5.1.7. Financial arrangement

Financial arrangement constitutes a practical part of bilateral forest cooperation. Expenses from cooperation under the bilateral agreements are borne as mutually agreed on by the two sides. In particular, the ROK and Iran agreed in 2016 that international travel expenses for bilateral meetings and visits with certain purposes would be borne by the visiting side, and the host country would provide cooperation regarding accommodation and local logistics.

#### 5.1.8. Settlement of disputes

In the process of bilateral forest cooperation, a dispute or conflict can emerge. The agreements state that any dispute between the two sides relating to interpretation, application, or implementation of the bilateral agreements should be settled amicably through consultations or negotiations. The Vienna Convention on the Law of Treaties (1969) affirmed that “disputes concerning treaties, like other international disputes, should be settled by peaceful means and in conformity with the principles of justice and international law.” Notably, the MOUs do not specify any organization that could solve and control disputes and

**Table 8**  
Issues of the specific forest cooperation agreements.

Issues	Number of agreement (N = 27)	%
Climate Change (A/R CDM or REDD)	7	26
Forest Forum or Forest Center	6	22
Desertification	3	11
Tree Seed Source or Nurseries	2	11
Other	9	33

conflicts in the process of bilateral forest cooperation.

#### 5.1.9. Entry into effect, duration, amendment, and termination

The MOUs specify a valid period that goes into effect on the date of signature and remains valid for a certain period (mostly 5 years). The agreements are renewed for successive periods of 2 years; that is, unless either side notifies the other side in writing of its intention to terminate the agreements 6 months before the expiration of the relevant period.

#### 5.2. Specific agreements

The 27 specific agreements include cooperation on certain topics. The principal topics are climate change-related forest activities, such as AR CDM and REDD (Table 8). In particular, the ROK agreed to cooperation on organizing forest forums and establishing forest centers with Indonesia through nine MOUs and three records of discussions. The ROK created one MOU and one arrangement to combat desertification with Mongolia.

### 6. Discussion

This discussion is based on the research results of bilateral forest cooperation between the ROK and partner countries in the context of the two research questions: accountability and reciprocity. It includes suggestions for modifications of bilateral forest cooperation agreements.

#### 6.1. Bilateral forest cooperation for global accountability

RQ 1: Do bilateral forest cooperation agreements support implementing accountability of partner countries to implement global forest regimes?

The collected MOUs between the ROK and partner countries affirm two States' commitment to the development of cooperation in forestry. The article is an abstract, principal statement requiring and supporting bilateral forest cooperation.

“The Sides will promote and strengthen cooperation between the two countries in the field of forestry”

[MOU between the KFS of the ROK and the Ministry of Agriculture, Livestock and Fisheries of the Oriental Republic of Uruguay on Cooperation in the Field of Forestry, September 2, 2008]

MOUs support an accountability system for decision-making in

**Table 7**  
Forest cooperative activities.

Cooperative activities	Number of agreement (N = 17)	%
Organization of joint workshops, meetings, seminars, and study tours	16	94
Exchange of data and information	15	88
Exchange of forestry experts, researchers, and officials	15	88
Cooperative activities in areas related to climate change and forestry	12	71
Mutual assistance and investment in forestry	10	59
Implementation of joint projects	3	18

**Table 9**

Date of conclusion of agreements and recent committee meetings by country.

No.	Country	Date of conclusion	Date of recent committee Meeting
1	Indonesia	20 June 1987	22nd (2016)
2	New Zealand	29 April 1997	8th (2016)
3	Australia	18 July 1997	9th (2017)
4	China	15 June 1998	10th (2015)
5	Mongolia	28 October 1998	8th (2014)
6	Vietnam	20 July 1999	9th (2017)
7	Myanmar	22 July 1999	8th (2014)
8	Russia	17 October 2006	4th (2014)
9	Cambodia	3 June 2008	4th (2014)
10	Uruguay	2 September 2008	4th (2016)
11	Paraguay	31 July 2009	3rd (2016)
12	Tunisia	24 March 2010	3rd (2016)
13	Chile	9 May 2012	2nd (2015)
14	Ecuador	21 June 2012	2nd (2015)
15	Brazil	22 June 2012	2nd (2015)
16	Japan	26 July 2012	3rd (2017)
17	Philippines	29 August 2012	2nd (2015)
18	Austria	22 October 2012	2nd (2016)
19	Algeria	23 October 2012	1st (2014)
20	Benin	24 October 2012	1st (2013)
21	Ethiopia	26 October 2012	1st (2015)
22	Argentina	12 August 2013	1st (2016)
23	Kazakhstan	4 October 2013	–
24	Kirgizstan	4 October 2013	–
25	Tajikistan	4 October 2013	–
26	Turkmenistan	4 October 2013	–
27	Uzbekistan	4 October 2013	–
28	Lao PDR	27 November 2013	1st (2014)
29	Canada	22 September 2014	2nd (2016)
30	Dominican Republic	19 May 2015	–
31	Iran	1 May 2016	–

‘–’: none, [Source] KFS (2018: 92).

bilateral forest cooperation and require the establishment and implementation of the Forest Cooperative Committee to present and adjust the interests of both sides in the process of cooperation. The Committee is a core organization for setting cooperation items, including deliberation and planning (Aurenhammer, 2013). The Committee's accountability contributes to increasing the executive ability to implement the activities in the bilateral MOUs. Based on the MOUs, the regular Committee meetings were continuously held (Table 9).

“In order to facilitate and secure the implementation of this MOU, the Two Sides shall establish a Joint Forest Cooperative Committee, which shall be composed of representatives of the Two Sides”

[MOU between the KFS of the ROK and the Ministry of Agriculture of the Government of the Federal Democratic Republic of Ethiopia on Cooperation in the Field of Forestry, October 26, 2012]

The MOUs between the ROK and other countries include forest cooperation related to global forest regimes. According to Article 3 of the Framework Act on International Development Cooperation (Korea Legislation Research Institute, 2017), the ROK exhibits international development cooperation, for example, by contributing to the resolution of global problems related to international development cooperation. The ROK and all the partner countries ratified all three legally binding treaties, that is, the UNFCCC, UNCCD, and UNCBD, except the Lao PDR, which did not ratify the UNCCD (Table 10).

The ROK agreed to the following: to cooperate on investments in AR CDM (2006 and 2007) and strengthen the capacity of preparation for the REDD+ implementation (2012) with Indonesia; cooperate through specific agreements with Cambodia (2014) and Myanmar (2015) on the REDD+ joint project; ratify the UNFCCC with Indonesia, Cambodia, and Myanmar; cooperate to combat desertification in forestry with the Russian Federation, Cambodia, Tunisia, Algeria, and Iran; conserve the forest ecosystem with several countries; cooperate in biodiversity

conservation in the forestry sector with the Russian Federation and Dominican Republic; and sign an MOU with the Dominican Republic on Cooperation in Biodiversity, Protected Areas, and Forestry in 2015.

In this study, MOUs represent trial cooperation where both sides aim to perform their responsibilities to follow the global treaties as symbolic policies (Rahman et al., 2018). MOUs can contribute to substantive policy changes, which is a definitive change in action and actors (Rahman et al., 2018). Based on the MOUs, the ROK has implemented REDD+ pilot projects with Indonesia (2012–2016, USD 3 million, 14,000 ha) Myanmar (2016–2018, USD 0.8 million, 69,000 ha) and Cambodia (2014–2018, USD 0.9 million USD, 65,000 ha), (KFS, 2018: 47, 63, 66). The ROK has also conducted biodiversity-related projects with Myanmar (2014–2016, USD 1.1 million) (KFS, 2018: 64).

Table 10 indicates that countries consider each other as partners when addressing climate change, desertification, and biodiversity loss as common global problems. Their choice of cooperation activities and outcomes could be made according to the principles and standards deliberated on and accepted in the global regimes, such as the UNFCCC, UNCCD, and UNCBD. Clearly, bilateral forest cooperation between the ROK and partner countries used the integrative and principled approach in implementing global environmental regimes. MOUs require normative and relational accountability (Biermann and Gupta, 2011) from both sides when cooperating to follow the global environmental regimes.

The MOUs stipulate financial accountability in the process of bilateral cooperation. In most cases, expenses from cooperation under the bilateral agreements are mutually agreed and decided on by the two sides. This financial accountability can induce practical performances by two sides.

## 6.2. Bilateral forest cooperation based on reciprocity

RQ 2: Do bilateral forest cooperation agreements support the realization of the reciprocal interests between the partner countries?

The ROK's MOUs are a steppingstone for fundamental cooperation in the forestry sector between the ROK and other countries. The MOUs support the establishment of a structure for realizing the reciprocal forest cooperation interests. The MOUs affirm that the forestry cooperation is mutually beneficial to both sides.

*“Recognizing the benefits to be derived from closer cooperation in the field of forestry, and Considering their common interest in developing closer forestry cooperation on the basis of equality”*

[MOU between the Ministry of Environment of Brazil and the KFS of the ROK on Cooperation in the Field of Forestry, June 21, 2012]

The MOUs include articles on cooperation activities regarding the reciprocal interests between countries, such as the following.

“Cooperative activities under the MOU will be implemented by mutual consent and on a reciprocal basis, …”

[MOU between the Ministry of Environment, Housing and Urban Development of the Republic of Benin and the KFS of the ROK on Cooperation in the Field of Forestry, October 24, 2012]

A/R CDM and REDD projects, as the agreed cooperation activities, provide both sides (implementers and donators) with the benefits of forest carbon credits under the climate change regime. For tropical countries, REDD+ provides a new source of financing for national policies to avoid deforestation and maintain forests; for donor countries, REDD+ is a low-cost option for carbon offsets (Simula, 2008). Donor and recipient countries can gain respective benefits from REDD+ projects (Angelsen, 2013). The ROK explicitly clarified cooperation for AR CDM and REDD in its general MOUs with Cambodia and Paraguay. In practice, Cambodia introduced a national program on REDD+ and implemented several pilot demonstration projects (Nhém et al., 2017). The ROK has established national strategies for REDD+ in

**Table 10**

Status of the ratification of environmental conventions and bilateral cooperation areas (N = 17).

Country	Ratification (Date/Month/Year)			Cooperation areas of MOUs		
	UNFCCC <sup>a</sup>	UNCCD <sup>b</sup>	UNCBD <sup>c</sup>	Climate Change	Desertification	Biodiversity (Conservation)
Russian Federation	28/12/94	29/05/03	05/04/95	●	●	●
Cambodia	18/12/95	18/08/97	09/02/95	●	●	○
Uruguay	18/08/94	17/02/99	05/11/93	●	–	○
Paraguay	24/02/94	15/01/97	24/02/94	●	–	○
Tunisia	15/07/93	11/10/95	15/07/93	●	●	○
Chile	22/12/94	11/11/97	13/06/92	●	–	○
Ecuador	23/02/93	06/09/95	23/02/93	–	–	–
Brazil	28/02/94	25/06/97	28/02/94	●	–	○
Philippines	02/08/94	10/02/00	08/10/93	●	–	○
Austria	28/02/94	02/06/97	18/08/94	●	–	○
Algeria	09/06/93	22/05/96	14/08/95	–	●	–
Benin	30/06/94	29/08/96	30/06/94	–	–	–
Ethiopia	05/04/94	27/06/97	05/04/94	–	–	–
Argentina	11/03/94	06/01/97	22/11/94	●	–	○
Las PDR	04/01/95	–	20/09/96	●	–	–
Dominican Republic	07/10/98	26/06/97	25/11/96	●	–	●
Iran	18/07/96	29/04/97	06/08/96	–	●	○

●: include each term, “climate change,” “desertification,” and “biodiversity”.

○: not include the term “biodiversity” but include the term “conservation”.

–: not include each term, “climate change,” “desertification,” and “biodiversity”.

<sup>a</sup> Ratification of the UNFCCC [http://unfccc.int/essential\\_background/convention/status\\_of\\_ratification/items/2631.php](http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php)

<sup>b</sup> Ratification of the UNCCD on March 21, 2017 <http://www2.unccd.int/sites/default/files/relevant-links/2017-11/Ratification%20list%20Mar2017.pdf>

<sup>c</sup> Ratification of the UNCBD <https://www.cbd.int/information/parties.shtml>

developing countries to secure forest carbon credits (KFS, 2017: 202). The MOUs that agree to facilitate tree plantations can contribute to fulfilling the interests of partner countries in forest development and the interests of ROK's private sector in forest investment. Based on the MOUs, a forest investment climate can be created, and then diverse private sources can be invested by the forest industry, NGOs, and individual investors (Simula, 2008).

The MOUs contribute to building a satisfactory environment for bilateral forest cooperation to secure the interests and rights of the two sides and ensure the intellectual property rights of two countries in the process of bilateral forest cooperation. Notably, the MOUs mention the settlement of disputes between the two sides. When disputes emerge, negotiations are the best method to settle them peacefully. Notably, disputes are not always easily solved through negotiations between countries; thus, alternate solutions are required. The current articles on dispute settlement clarify the principle, but not the concrete processes, for solving disputes. The MOUs must include articles on designing the protocol and detailed step-by-step rules for dispute settlement to secure reciprocal interests and stabilize forest cooperation between countries.

### 6.3. Dominant cooperation areas

Bilateral forest cooperation has an issue-focused approach related to global issues, such as climate, biodiversity, and desertification, within the global forest regime. In particular, 65% of the general cooperation agreements between 2006 and 2016 are directly related to climate change. The ROK clarified “collaborative measures for addressing global issues” with Benin and “cooperation on international issue in the forest sector” with the Philippines. The principal issues agreed on in the specific agreements are bilateral cooperation in the field of climate change and forestry.

The number cooperation activities in the MOUs to conserve forest biodiversity is relatively few, compared with mitigating and adapting to climate change and combating desertification. The ROK intensively concentrates on transferring its successful experiences and technology for forest rehabilitation to other developing countries with similar deforestation problems. Reforestation and afforestation projects dominate classical forest cooperation between the ROK and other countries. By following the climate change regime, the ROK emphasizes reforestation

and afforestation as a means to mitigate climate change. In principle, reforestation and afforestation can contribute to improving forest biodiversity.

Forest biodiversity conservation can be a significant area of bilateral forest cooperation. The ROK has strengthened its national forest biodiversity conservation policies since the 2000s. The KFS has established and implemented the Master Plan of Forest Biodiversity (2008–2012) (KFS, 2016a: 385) and designed and managed the Baekdu-Daegan Protection Areas, which are the vital mountain ranges that form the backbone of the Korean peninsula, according to Baekdu-Daegan Protection Act established in 2005. This experience can be shared with other countries.

Over half of the MOUs analyzed in this study (53%) include cooperation on the trade of forest products. The trade of timber and non-timber products is an essential agenda item among countries. Notably, whether the ROK and its partner countries agree to cooperation activities regarding the trade of legal timber is unclear. Timber legality certification is becoming increasingly crucial in the global timber market for combating illegal logging. Specifically, in the European region, FLEGT works through legally binding contracts between the EU and timber-producing countries outside the EU (van Heeswijk and Turnhout, 2013). Considering the concerns regarding timber legality verification in the global market, the ROK, which mainly exports processed goods produced from imported timber, should assess the legal verification of imported timber. Currently, the ROK is preparing to introduce a domestic system to restrict the trade of illegal timber (KFS, 2018: 22). In the future, the ROK can sign bilateral forest cooperation agreements that include specific activities for the legal timber trade with timber-producing countries such as Indonesia.

### 7. Conclusion

This paper examined the bilateral cooperation between the ROK and partner countries in the field of forestry and recognized their accountability and interests under the global forest regimes. In practice, bi-governmental forest cooperation is based on MOUs. Compared with legally binding agreements, such as the UNFCCC, UNCCD, UNCBD, and VPAs of FLEGT, MOUs have no legally binding force on the signed countries and include normative and conceptual articles regarding

bilateral forest cooperation.

Notably, MOUs are the first step toward goal clarification between countries (Trivedi, 1990); are the primary requirement for implementing collaborative activities in the process of bilateral forest cooperation; offer the opportunity for both sides to generate funds for forest-related projects, allocate resources to forest cooperation activities, and enhance capacity for forest management; enable countries to start cooperating with each other in the forest sector; underpin accountability and reciprocal interests of two sides for bilateral forest cooperation; and, as non-legally binding agreements, function in international relations not through enforcement but through trust building among countries.

MOUs indicate that bilateral forest cooperation areas and activities are closely related to three conventions, the UNFCCC, UNCBD and UNCCD, which could be perceived as components of a global forest regime (Singer and Giessen, 2017). In particular, the ROK and partner countries concluded several MOUs for AR CDM and REDD+ projects in developing countries under a global forest regime (Singer and Giessen, 2017). We observed that the issue-specific treaties influence the ROK's forest development cooperation policies. Accountability and reciprocity are the impetus for bilateral forest cooperation and contribute to forming a global forest regime complex with an issue-focused approach (Giessen, 2013). Therefore, MOUs influence substantive and symbolic policy changes within bilateral forest cooperation.

In this paper, we analyzed the forest agreements between the ROK and other countries to understand bilateral forest cooperation based on the theory of accountability and reciprocity in international relations. Notably, we did not examine the effects of the agreements on the establishment and implementation of forest projects. An analysis of the effects of the non-legally binding agreements in the specific countries would have been worthwhile. Despite these limitations, this research contributes to the understanding of the roles of bilateral forest cooperation agreements in conducting accountability for implementing global environmental regimes and fulfilling mutual interests in the forestry sector. We hope our article stimulates further research on international forest cooperation.

## Acknowledgements

A part of this work was presented at the IUFRO International and Multi-disciplinary Scientific Conference, 'Forest-related policy and governance: Analyses in the environmental social sciences' in Bogor, Indonesia, on 5 October 2016. The authors would like to thank the anonymous journal reviewers for their advice and valuable comments.

## References

Angelsen, A., 2013. REDD+ as Performance-Based Aid: General Lessons and Bilateral Agreements of Norway (No. 2013/135). WIDER Working Paper. <https://www.econstor.eu/bitstream/10419/93710/1/773879102.pdf>.

Atteslander, P., 1991. Methoden der empirischen Sozialforschung. de Gruyter, Berlin, pp. 226–254.

Aurenhammer, P., 2013. Development Cooperation Policy in Forestry from an Analytical Perspective. Vol. 13 Springer Science & Business Media, Dordrecht.

Aurenhammer, P., 2016. Network analysis and actor-centred approach – a critical review. *Forest Policy Econ.* 68, 30–38.

Barbati, A., Marchetti, M., Chirici, G., Corona, P., 2014. European forest types and forest Europe SFM indicators: tools for monitoring progress on forest biodiversity conservation. *For. Ecol. Manag.* 321, 145–157.

Bernstein, S., Cashore, B., 2012. Complex global governance and domestic policies: four pathways of influence. *Int. Aff.* 88 (3), 585–604.

Biermann, F., Gupta, A., 2011. Accountability and legitimacy in earth system governance: a research framework. *Ecol. Econ.* 70 (11), 1856–1864.

Bovens, M., 2010. Two concepts of accountability: accountability as a virtue and as a mechanism. *West Eur. Polit.* 33 (5), 946–967.

Brown, L.R., 2008. Plan B 3.0: Mobilizing to Save Civilization. W.W.Norton, New York.

Cadman, T., 2009. Quality, Legitimacy and Global Governance: A Comparative Analysis of Four Forest Institutions. Doctoral dissertation. University of Tasmania, Tasmania.

Dimitrov, R.S., 2003. Knowledge, power, and interests in environmental regime formation. *Int. Stud. Q.* 47 (1), 123–150.

Dingwerth, K., Patterberg, P., 2006. Global governance as a perspective on world politics. *Glob. Gov.* 12 (2), 185–203.

Dryzek, J.S., 1997. The Politics of the Earth: Environmental Discourses. Oxford University Press.

Fuchs, D.A., 2002. Globalization and global governance: discourses on political order at the turn of the century. In: Fuchs, D.A., Kratochwill, F. (Eds.), *Transformative Change and Global Order. Reflection on Theory and Practice*. LIT Verlag, Münster, pp. 1–23.

Giessen, L., 2013. Reviewing the main characteristics of the international forest regime complex and partial explanations for its fragmentation. *Int. For. Rev.* 15 (1), 60–70.

Giessen, L., Sarker, P.K., Rahman, M.S., 2016. International and domestic sustainable forest management policies: distributive effects on power among state agencies in Bangladesh. *Sustainability* 8 (4), 335.

Goldstein, J.S., 2007. Core principles of international relations theory. In: Goldstein, J.S., Pevehouse, J.C. (Eds.), *International Relations*, 8th ed. Pearson Longman, New York, pp. 4–9.

Gomar, J.O.V., Stringer, L.C., Paavola, J., 2014. Regime complexes and national policy coherence: experiences in the biodiversity cluster. *Glob. Gov.* 20 (1), 119–145.

Humphreys, D., 2001. Forest negotiations at the United Nations: explaining cooperation and discord. *Forest Policy Econ.* 3 (3), 125–135.

Keohane, R.O., 1982. Demand for international regimes. *Int. Organ.* 36 (2), 325–355.

Keohane, R.O., 1986. Reciprocity in international relations. *Int. Organ.* 40 (1), 1–27.

KFS, 1997. The 50 Year History of Korea Forest Policy. KFS, Seoul (in Korean).

KFS, 2016a. The 50 Year History of Korea Forest Service. KFS, Daejeon (in Korean).

KFS, 2016b. International Cooperation of Korea Forest Service. [http://english.kfso.go.kr/newkfsweb/html/EngHtmlPage.do?pg=/esh/intl/UI\\_KFS\\_0103\\_010100.html&mn=ENG\\_14\\_01\\_03](http://english.kfso.go.kr/newkfsweb/html/EngHtmlPage.do?pg=/esh/intl/UI_KFS_0103_010100.html&mn=ENG_14_01_03).

KFS, 2017. The 50-Year History of Korea Forest Service: 1967–2017. KFS, Daejeon (in Korean).

KFS, 2018. The Results and Marks of International Forest Cooperation 2017. KFS, Daejeon (in Korean).

KOICA, 2013. *Understanding International Development Cooperation*. Hanul, Paju.

Korea Legislation Research Institute, 2017. The Web Service for English Version of the Statutes of the Republic of Korea. <https://elaw.klri.re.kr/eng/service/main.do>.

Krasner, S.D., 1982. Structural causes and regime consequences: regimes as intervening variables. *Int. Organ.* 36 (2), 185–206.

Krott, M., 2010. *Forest Policy Analysis*. Springer, Dordrecht.

Lee, S., Min, K., Koo, J., Lee, S., Kwon, J., 2015. A study for Korea International Development Cooperation Strategy in the Forestry Sector. Korea Rural Economic Institute, Naju (in Korean).

Lesniewska, F., McDermott, C.L., 2014. FLEGT VPAs: laying a pathway to sustainability via legality lessons from Ghana and Indonesia. *Forest Policy Econ.* 48, 16–23.

Lipschutz, R.D., 1992. Restructuring world politics: the emergence of global civil society. *Millennium*. 21 (3), 389–420.

Luckert, M.K., Williamson, T., 2005. Should sustained yield be part of sustainable forest management? *Can. J. For. Res.* 35 (2), 356–364.

Maryudi, A., Sahide, M.A., 2017. Research trend: power analyses in polycentric and multi-level forest governance. *Forest Policy Econ.* 81, 65–68.

Mashaw, J.L., 2006. Accountability and institutional design: some thoughts on the grammar of governance. In: Dowdle, M.W. (Ed.), *Public Accountability: Designs, Dilemmas and Experiences*. Cambridge University Press, Cambridge, pp. 115–156.

Mather, A.S., 1992. The forest transition. *Area* 24, 367–379.

Merten, K., 1995. *Inhaltsanalyse: Einführung in Theorie, Methode und Praxis*. Westdeutscher Verlag, Opladen.

Myking, T., Waløe Tvedt, M., Karlsson, B., 2017. Protection of forest genetic resources by intellectual property rights—exploring possibilities and conceivable conflicts. *Scand. J. For. Res.* 32 (7), 598–606.

Nhem, S., Lee, Y.J., Phin, S., 2017. Sustainable management of forest in view of media attention to REDD+ policy, opportunity and impact in Cambodia. *Forest Policy Econ.* 85, 10–21.

Noronha, R., 1981. Why is it so difficult to grow fuelwood. *Unasylva* 33, 4–12.

Office for Government Policy Coordination, 2017. ODA Korea. <http://www.odakorea.go.kr/ez.main.ODAEngMain.do>.

Park, M., Lee, H., 2014. Forest policy and law for sustainability within the Korean Peninsula. *Sustainability* 6 (8), 5162–5168.

Park, M., Youn, Y., 2017. Restoration policy integration by the multiple sectors toward forest transition in the Republic of Korea. *Forest Policy Econ.* 76, 45–55.

Park, M., Choi, E.S., Youn, Y., 2013. REDD+ as an international cooperation strategy under the global climate change regime. *For. Sci. Technol.* 9 (4), 213–224.

Persson, R., 2003. Assistance to Forestry, Experiences and Potential for Improvements. CIFOR, Bogor Barat, Indonesia.

Program on Forests (PROFOR) and FAO, 2011. Framework for Assessing and Monitoring Forest Governance. PROFOR and FAO, Rome.

Rahman, M.S., Sadath, M.N., Giessen, L., 2016. Foreign donors driving policy change in recipient countries: three decades of development aid towards community-based forest policy in Bangladesh. *Forest Policy Econ.* 68, 39–53.

Rahman, M.S., Sarker, P.K., Sadath, M.N., Giessen, L., 2018. Policy changes resulting in power changes? Quantitative evidence from 25 years of forest policy development in Bangladesh. *Land Use Policy* 70, 419–431.

Rittberger, V., Zangl, B., 2004. *Internationale Organisationen: Politik und Geschichte*. 3. Auflage. VS, Wiesbaden.

Scholte, J.A., 2011. Global governance, accountability and civil society. In: Scholte, J.A. (Ed.), *Building Global Democracy?: Civil Society and Accountable Global Governance*. Cambridge University Press, Cambridge, pp. 8–41.

Secco, L., Da Re, R., Pettenella, D.M., Gatto, P., 2014. Why and how to measure forest governance at local level: a set of indicators. *Forest Policy Econ.* 49, 57–71.

Simula, M., 2008. Financing Flows and Needs to Implement the Non-legally Binding Instrument on All Types of Forests. United Nations. <http://www.un.org/esa/forests/>

pdf/aheg/finance/AGF\_Financing\_Study.pdf.

Singer, B., Giessen, L., 2017. Towards a donut regime? Domestic actors, climatization, and the hollowing-out of the international forests regime in the Anthropocene. *Forest Policy Econ.* 79, 69–79.

Solberg, B., Bergseng, E., Lindstad, B.H., 2017. Assessing national impacts of international environmental regimes for biodiversity protection and climate mitigation in boreal forestry—experiences from using a quantitative approach. *Forest Policy Econ.* 85, 147–160.

Stern, N., 2006. The Economics of Climate Change: The Stern Review. Cambridge University Press, Cambridge.

Stokke, O.S., 1997. Regimes as governance systems. In: Young, Oran R. (Ed.), *Global Governance: Drawing Insights from the Environmental Experience*. Massachusetts Institute of Technology Press, Cambridge, pp. 27–63.

Thörn, H., 2007. Social movements, the media and the emergence of a global public sphere: from anti-apartheid to global justice. *Curr. Sociol.* 55 (6), 896–918.

Trivedi, P., 1990. Lack of understanding on memorandum of understanding. *Econ. Polit. Wkly.* 25 (47), M175–M182.

United Nations, 1945. The United Nations Charter. <http://www.un.org/en/charter-united-nations>.

United Nations, 1992. Report of the United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3–14 June 1992. Available online. <http://www.un.org/documents/ga/conf151/acn15126-3annex3.htm>, Accessed date: 2 October 2016.

van Heeswijk, L., Turnhout, E., 2013. The discursive structure of FLEGT (Forest Law Enforcement, Governance and Trade): the negotiation and interpretation of legality in the EU and Indonesia. *Forest Policy Econ.* 32, 6–13.

Wapner, P., 1997. In: Young, Oran R. (Ed.), *Global Governance: Drawing Insights from the Environmental Experience*. Massachusetts Institute of Technology Press, Cambridge, pp. 65–84 Governance in global civil society.

Weiss, T.G., Gordenker, L., 1996. NGOs, the UN, and Global Governance. Lynne Rienner, Boulder.

Wiersum, K.F., Elands, B.H., 2013. Opinions on legality principles considered in the FLEGT/VPA policy in Ghana and Indonesia. *Forest Policy Econ.* 32, 14–22.

Williams, M., 2006. *Deforesting the Earth: From Prehistory to Global Crisis*. University of Chicago Press, Chicago.

Yoon, J., Park, G., Kim, S., Lee, J., Sung, Y., Lee, S., Park, B., Jang, G., 2013. A study on the direction of Korean official development assistance in forestry. *CNU J. Agric. Sci.* 40 (1), 19–26 (in Korean, with English abstract).